

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssptayvv1621

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	AUG 06	CAS REGISTRY enhanced with new experimental property tags
NEWS	3	AUG 06	FSTA enhanced with new thesaurus edition
NEWS	4	AUG 13	CA/CAPplus enhanced with additional kind codes for granted patents
NEWS	5	AUG 20	CA/CAPplus enhanced with CAS indexing in pre-1907 records
NEWS	6	AUG 27	Full-text patent databases enhanced with predefined patent family display formats from INPADOCDB
NEWS	7	AUG 27	USPATOLD now available on STN
NEWS	8	AUG 28	CAS REGISTRY enhanced with additional experimental spectral property data
NEWS	9	SEP 07	STN AnaVist, Version 2.0, now available with Derwent World Patents Index
NEWS	10	SEP 13	FORIS renamed to SOFIS
NEWS	11	SEP 13	INPADOCDB enhanced with monthly SDI frequency
NEWS	12	SEP 17	CA/CAPplus enhanced with printed CA page images from 1967-1998
NEWS	13	SEP 17	CAPplus coverage extended to include traditional medicine patents
NEWS	14	SEP 24	EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS	15	OCT 02	CA/CAPplus enhanced with pre-1907 records from Chemisches Zentralblatt
NEWS	16	OCT 19	BEILSTEIN updated with new compounds
NEWS	17	NOV 15	Derwent Indian patent publication number format enhanced
NEWS	18	NOV 19	WPIX enhanced with XML display format
NEWS	19	NOV 30	ICSD reloaded with enhancements
NEWS	20	DEC 04	LINPADOCDB now available on STN
NEWS	21	DEC 14	BEILSTEIN pricing structure to change
NEWS	22	DEC 17	USPATOLD added to additional database clusters
NEWS	23	DEC 17	IMSDRUGCONF removed from database clusters and STN
NEWS	24	DEC 17	DGENE now includes more than 10 million sequences
NEWS	25	DEC 17	TOXCENTER enhanced with 2008 MeSH vocabulary in MEDLINE segment
NEWS	26	DEC 17	MEDLINE and LMEMLINE updated with 2008 MeSH vocabulary
NEWS	27	DEC 17	CA/CAPplus enhanced with new custom IPC display formats
NEWS	28	DEC 17	STN Viewer enhanced with full-text patent content from USPATOLD
NEWS	29	JAN 02	STN pricing information for 2008 now available
NEWS	30	JAN 16	CAS patent coverage enhanced to include exemplified prophetic substances
NEWS	31	JAN 28	USPATFULL, USPAT2, and USPATOLD enhanced with new custom IPC display formats
NEWS	32	JAN 28	MARPAT searching enhanced
NEWS	33	JAN 28	USGENE now provides USPTO sequence data within 3 days of publication
NEWS	34	JAN 28	TOXCENTER enhanced with reloaded MEDLINE segment
NEWS	35	JAN 28	MEDLINE and LMEMLINE reloaded with enhancements

NEWS 36 FEB 08 STN Express, Version 8.3, now available

NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,
AND CURRENT DISCOVER FILE IS DATED 24 JANUARY 2008

NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS LOGIN Welcome Banner and News Items
NEWS IPC8 For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 15:19:40 ON 19 FEB 2008

=> file reg		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 15:20:08 ON 19 FEB 2008
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2008 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 18 FEB 2008 HIGHEST RN 1004360-55-7
DICTIONARY FILE UPDATES: 18 FEB 2008 HIGHEST RN 1004360-55-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2008.

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=>
Uploading C:\Program Files\Stnexp\Queries\10594148.str

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 15:21:54 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 5058 TO ITERATE

39.5% PROCESSED 2000 ITERATIONS

24 ANSWERS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 96896 TO 105424

PROJECTED ANSWERS: 746 TO 1680

L2 24 SEA SSS SAM L1

=> d l2 scan

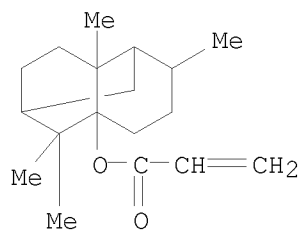
L2 24 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN 2-Propenoic acid, 2-chloro-, 2,2,2-trifluoroethyl ester, polymer with
[1R-(1 α , 4 β , 4 $\alpha\alpha$, 6 β , 8 $\alpha\alpha$)]-octahydro-4,8a,9,9-tetramethyl-1,6-methanonaphthalen-1(2H)-yl 2-propenoate (9CI)

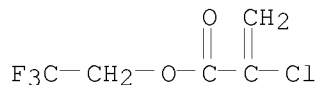
MF (C18 H28 O2 . C5 H4 Cl F3 O2)x

CI PMS

CM 1



CM 2



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> s l1 full

FULL SEARCH INITIATED 15:23:46 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 102899 TO ITERATE

100.0% PROCESSED 102899 ITERATIONS

1140 ANSWERS

SEARCH TIME: 00.00.02

L3 1140 SEA SSS FUL L1

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	180.66	180.87

FILE 'CAPLUS' ENTERED AT 15:23:53 ON 19 FEB 2008
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 19 Feb 2008 VOL 148 ISS 8
 FILE LAST UPDATED: 18 Feb 2008 (20080218/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>

```
=> s l3
L4      599 L3

=> s l4 not py > 2003
      5350432 PY > 2003
L5      424 L4 NOT PY > 2003

=> d l5 ibib abs hitstr 1-20
```

```
L5  ANSWER 1 OF 424  CAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:      2003:945855  CAPLUS
DOCUMENT NUMBER:       140:21264
TITLE:                  Positive-working photoresist composition containing
                        specific resin
INVENTOR(S):            Sasaki, Tomoya; Mizutani, Kazuyoshi; Kanna, Shinichi
PATENT ASSIGNEE(S):     Fuji Photo Film Co., Ltd., Japan
SOURCE:                 Jpn. Kokai Tokkyo Koho, 55 pp.
                        CODEN: JKXXAF
DOCUMENT TYPE:          Patent
LANGUAGE:               Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
```

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2003345018	A	20031203	JP 2002-149405	20020523
PRIORITY APPLN. INFO.:			JP 2002-149405	20020523
AB The title composition contains a resin increasing solubility in an alkali developer				
by an acid and an actinic ray- or radiation-sensitive acid generator,				
wherein the resin contains repeating unit [-C(R1)(R2)-CC(R3)(R4)](R1-3 =				
H, halo, cyano, alkyl; R4 = alkyl, aryl) and fluorine in the side chain.				
The composition shows the high transparency towards ≤160 nm light and				
provides photoresist of high resolution				
IT 629653-60-7P 629653-61-8P 629653-62-9P				

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(resin; pos.-working photoresist composition)

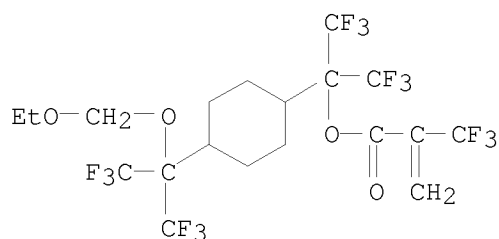
RN 629653-60-7 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with (ethenyloxy)cyclohexane and 1-[4-[1-(ethoxymethoxy)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexyl]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 479072-78-1

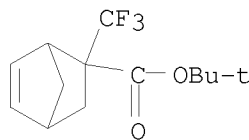
CMF C19 H19 F15 O4



CM 2

CRN 365568-55-4

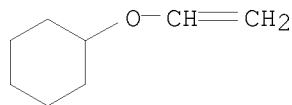
CMF C13 H17 F3 O2



CM 3

CRN 2182-55-0

CMF C8 H14 O

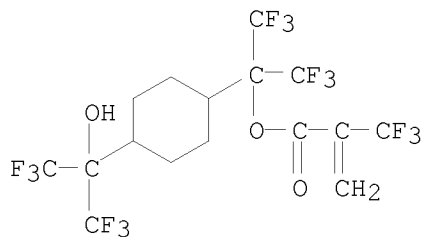


RN 629653-61-8 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with 5-[2-(ethenyloxy)ethoxy]-1,1,2,2,3,3,4,4-octafluoropentane and 5-[3,3,3-trifluoro-2-(methoxymethoxy)-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

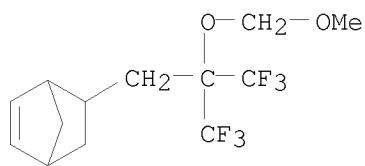
CM 1

CMF C16 H13 F15 O3



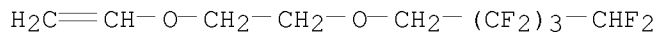
CM 2

CMF C13 H16 F6 O2



CM 3

CMF C9 H10 F8 O2

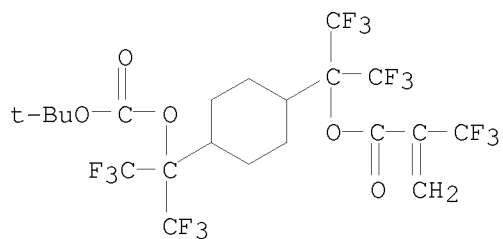


RN 629653-62-9 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1-[4-[1-[(1,1-dimethylethoxy)carbonyl]oxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexyl]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, polymer with 5-(ethenyloxy)-1,1,2,2,3,3,4,4-octafluoropentane (9CI) (CA INDEX NAME)

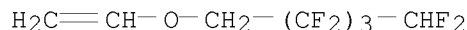
CM 1

CMF C21 H21 F15 05



CM 2

CRN 66396-73-4
CMF C7 H6 F8 O



L5 ANSWER 2 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:914241 CAPLUS

DOCUMENT NUMBER: 139:381916

TITLE: Alpha-fluoroacrylic polymers with low polydispersity index, process for their synthesis, and procedure for manufacture of articles using them

INVENTOR(S): Boutevin, Bernard; Otazaghine, Belkacem; Lacroix-Desmazes, Patrick; Dubreuil, Marjorie; Bodart, Vincent

PATENT ASSIGNEE(S): Solvay SA, Belg.

SOURCE: Fr. Demande, 22 pp.

CODEN: FRXXBL

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2839725	A1	20031121	FR 2002-6247	20020517
WO 2003097705	A1	20031127	WO 2003-EP5315	20030516
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2003240684	A1	20031202	AU 2003-240684	20030516
PRIORITY APPLN. INFO.:			FR 2002-6247	A 20020517
			WO 2003-EP5315	W 20030516

AB Title polymers with polydispersity index ≤ 1.5 are manufactured by radical polymerization in the presence of U1U2 [U1 = Br, I, or Cl, U2 = halogen,

SO2R, or (substituted) C1-40 hydrocarbyl, R = C1-10 alkyl] (such as iodine) as chain-transfer agents.

IT 95243-61-1P, 2,2,2-Trifluoroethyl α -fluoroacrylate homopolymer

RL: IMF (Industrial manufacture); PREP (Preparation)

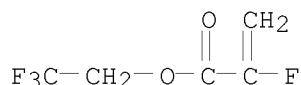
(manufacture of alpha-fluoroacrylic polymers with low polydispersity index by radical polymerization in presence of halo compound chain transfer agents)

RN 95243-61-1 CAPLUS

CN 2-Propenoic acid, 2-fluoro-, 2,2,2-trifluoroethyl ester, homopolymer (9CI)
(CA INDEX NAME)

CM 1

CRN 74359-10-7
CMF C5 H4 F4 O2



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:890218 CAPLUS
 DOCUMENT NUMBER: 139:388472
 TITLE: Chemically amplified positive photoresists for
 ≤160 nm vacuum UV lithography
 INVENTOR(S): Kanna, Shinichi; Mizutani, Kazuyoshi; Sasaki, Tomoya
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003322972	A	20031114	JP 2002-130718	20020502
PRIORITY APPLN. INFO.: GI			JP 2002-130718	20020502

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The photoresists comprise (a) ionic compds. and nonionic compds. both generating acids by radiation, (b) polymers having repeating units chosen from I, II, CH₂CCF₃CO₂R_{4a}, III, CH₂CR_{1a}[C₆H₄[C(CR₄₁R₄₂R₄₃)(CR₄₄R₄₅R₄₆)OX]_n], and IV (X, R_{3a}, R_{4a} = H, acid-labile group; R₁₁-R₁₆, R₂₁-R₃₂, R₄₁-R₄₆, R₅₁-R₅₆ = H, F, fluoroalkyl, ≥1 of R₁₁-R₁₆ ≠ H, ≥1 of R₂₁-R₃₂ ≠ H, ≥1 of R₄₁-R₄₆ ≠ H, ≥1 of R₅₁-R₅₆ ≠ H; R_{1a}, R_{2a} = H, F, Cl, Br, cyano, CF₃; m = 0, 1; n = 1-5), which increase solubility in alkaline developers by acids, and (c) solvents. The compns.

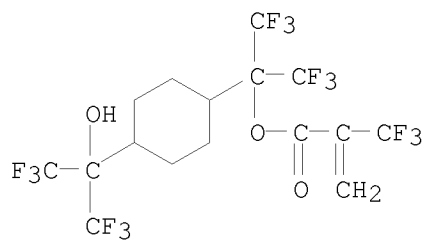
show wide defocus latitude and defect-free patterns.

IT 607710-71-4P 607710-72-5P 610300-97-5P
 610300-98-6P 610301-00-3P 610301-01-4P
 610301-03-6P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (chemical amplified pos. photoresists for ≤160 nm vacuum UV lithog.)

RN 607710-71-4 CAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl 1,1-dimethylethyl carbonate (9CI) (CA INDEX NAME)

CM 1

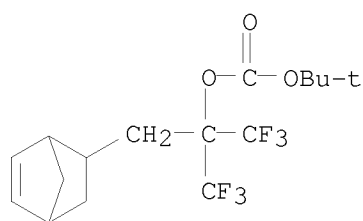
CRN 479072-83-8
 CMF C16 H13 F15 O3



CM 2

CRN 196314-63-3

CMF C16 H20 F6 O3



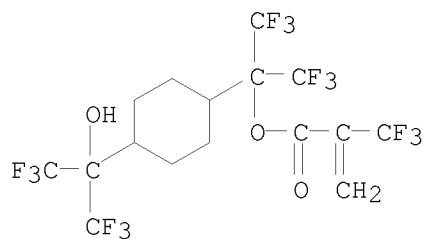
RN 607710-72-5 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl
2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8

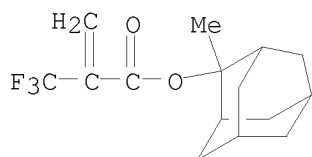
CMF C16 H13 F15 O3



CM 2

CRN 188739-86-8

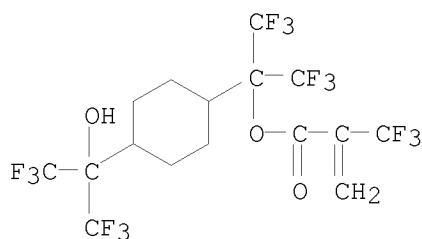
CMF C15 H19 F3 O2



RN 610300-97-5 CAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with 5-[2-(ethoxymethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

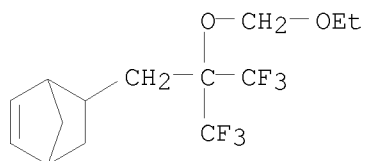
CM 1

CRN 479072-83-8
 CMF C16 H13 F15 O3



CM 2

CRN 328114-61-0
 CMF C14 H18 F6 O2



RN 610300-98-6 CAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8
 CMF C16 H13 F15 O3



Chemical structure of compound 1: A bicyclic system (bicyclo[2.2.2]oct-5-ene) with a CF_3 group and a $\text{C}(\text{O})\text{OBu-t}$ group attached to the same carbon atom.

CM 1

CC(C)(C)OC(=O)OC1(C(F)(F)F)C(C(F)(F)F)C(C(F)(F)F)C(C(F)(F)F)C1OC(=O)C(=O)C(F)(F)F

CM 2

FC(F)(F)C(=O)C(=O)O[C@H]1C[C@H]2C[C@@H]1C[C@H](C2)C

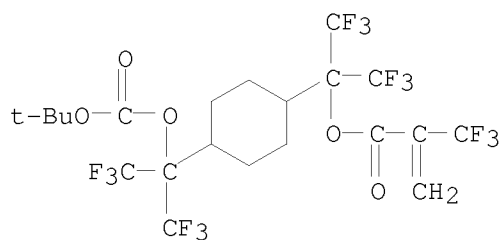
RN	610301-01-4	CAPLUS
CN	2-Propenoic acid, 2-(trifluoromethyl)-, 1-[4-[1-[[(1,1-	

dimethylethoxy)carbonyl]oxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexyl]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 610300-99-7

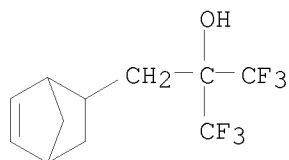
CMF C21 H21 F15 O5



CM 2

CRN 196314-61-1

CMF C11 H12 F6 O



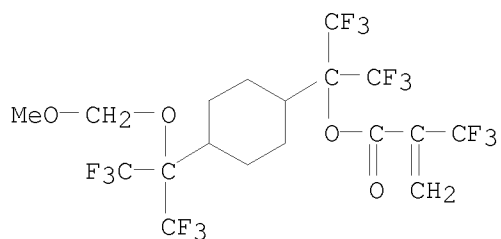
RN 610301-03-6 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, methyl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-(methoxymethoxy)-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

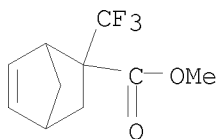
CRN 610301-02-5

CMF C18 H17 F15 O4



CM 2

CRN 597581-42-5
CMF C10 H11 F3 O2



L5 ANSWER 4 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:868612 CAPLUS
DOCUMENT NUMBER: 139:371875
TITLE: Positive-working resist composition for vacuum-UV exposure
INVENTOR(S): Kanna, Shinichi; Mizutani, Kazuyoshi; Sasaki, Tomoya
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
JP 2003316005	A	20031106	JP 2002-122269	20020424
PRIORITY APPLN. INFO.:			JP 2002-122269	20020424

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The pos.-working resist composition comprises (a) a photoacid represented by I or II (R1a-27a = H, alkyl, alkoxy, etc.; and X- = anion), (b) a resin which increases its solubility in an alkali developer upon contact with an acid, and (c) a solvent. The composition further comprises a surfactant containing

Si and/or F. The composition further comprises an organic base compound The pos.-working resist composition exhibited a suppressed outgasing.

IT 607710-71-4 607710-72-5 610300-97-5
610300-98-6 610301-00-3 610301-01-4
610301-03-6

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(pos.-working resist composition for vacuum-UV exposure)

RN 607710-71-4 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl 1,1-dimethylethyl carbonate (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8
CMF C16 H13 F15 O3



RN	607710-72-5	CAPLUS
CN	2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1 ^{3,7}]dec-2-yl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)	

CM 1

CM 2

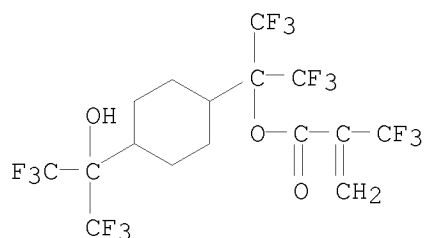
CC12C=CC(OC(=O)C(=O)C(F)(F)F)C1C=C2

RN 610300-97-5 CAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with 5-[2-(ethoxymethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8

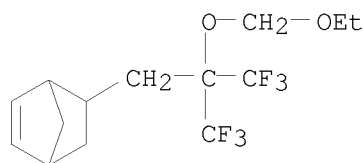
CMF C16 H13 F15 O3



CM 2

CRN 328114-61-0

CMF C14 H18 F6 O2

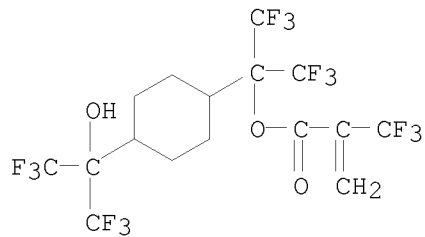


RN 610300-98-6 CAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

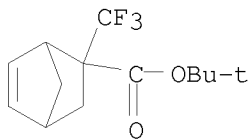
CRN 479072-83-8

CMF C16 H13 F15 O3



CM 2

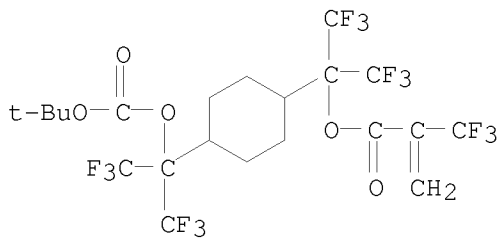
CMF C13 H17 F3 O2



RN	610301-00-3	CAPLUS
CN	2-Propenoic acid, 2-(trifluoromethyl)-, 1-[4-[1-[[1,1-dimethylethoxy)carbonyl]oxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexyl]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, polymer with tricyclo[3.3.1.1 ^{3,7}]dec-1-yl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)	

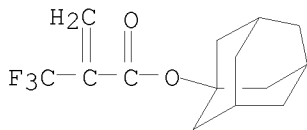
CM 1

CMF C21 H21 F15 O5



CM 2

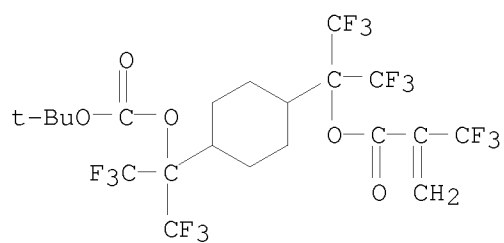
CMF C14 H17 F3 O2



RN	610301-01-4	CAPLUS	
CN	2-Propenoic acid, 2-(trifluoromethyl)-, 1-[4-[1-[[1,1-dimethylethoxy)carbonyl]oxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexyl]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)		

CM 1

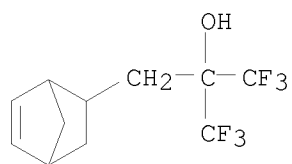
CMF C21 H21 F15 O5



CM 2

CRN 196314-61-1

CMF C11 H12 F6 O



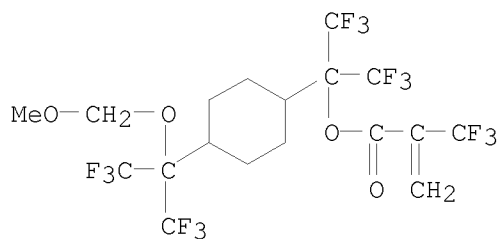
RN 610301-03-6 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, methyl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-(methoxymethoxy)-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 610301-02-5

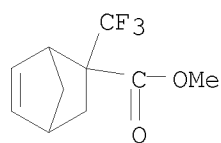
CMF C18 H17 F15 O4



CM 2

CRN 597581-42-5

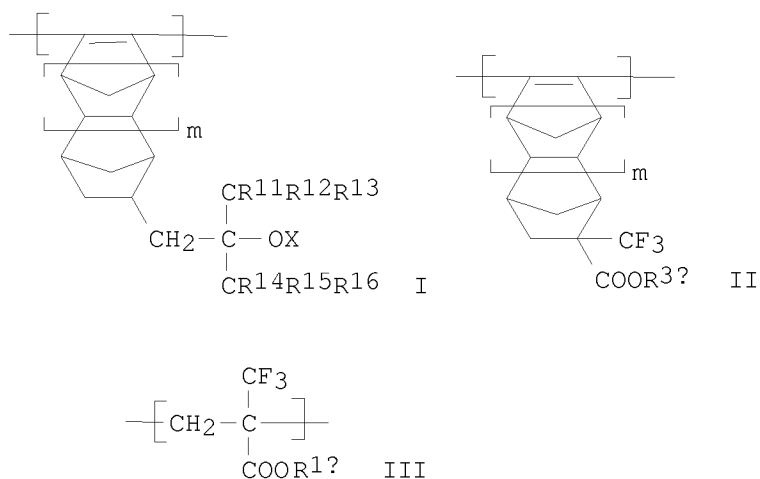
CMF C10 H11 F3 O2



L5 ANSWER 5 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:853325 CAPLUS
 DOCUMENT NUMBER: 139:356048
 TITLE: Positive-working photoresist composition
 INVENTOR(S): Kanna, Shinichi; Mizutani, Kazuyoshi; Sasaki, Tomoya
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003307850	A	20031031	JP 2002-112257	20020415
PRIORITY APPLN. INFO.:			JP 2002-112257	20020415
OTHER SOURCE(S):	MARPAT	139:356048		

GI



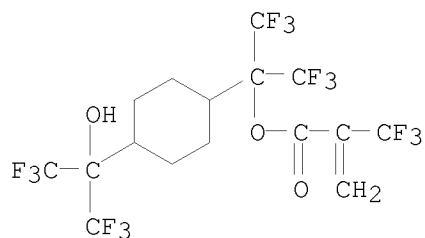
AB The title composition contains a photoacid generator, a resin increasing the solubility in an alkali developer by an acid, and a solvent, wherein the acid generator has general structure (R1)(R2)(R3)S+ X- or R4-I+-R5 X- (R1-5 = aliphatic hydrocarbon, aromatic hydrocarbon; X = anion) and wherein the resin contains at least one of repeating unit chosen from I, II, (m = 0,1; X = H, acid-sensitive group; R11-16 = H, F, fluoroalkyl; R3a = H, acid-sensitive group), [-CH2-C(CF3)(CO2R14)-] (R4a = H, acid-sensitive group), etc. The composition is suitable for exposure of ≤160 nm light and provides photoresist of good line-edge roughness and little residual layer after the development.

IT 607710-71-4 607710-72-5 610300-97-5
 610300-98-6 610301-00-3 610301-03-6
 RL: TEM (Technical or engineered material use); USES (Uses)
 (resin in composition)

RN 607710-71-4 CAPLUS

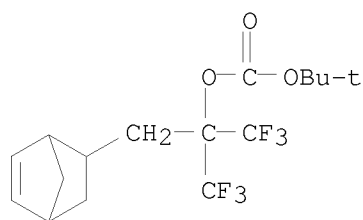
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl 1,1-dimethylethyl carbonate (9CI) (CA INDEX NAME)

CRN 479072-83-8
CMF C16 H13 F15 O3



CM 2

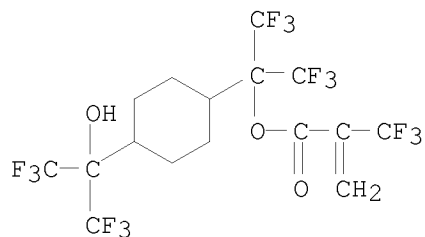
CRN 196314-63-3
CMF C16 H20 F6 O3



RN 607710-72-5 CAPLUS
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

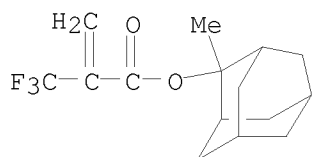
CM 1

CRN 479072-83-8
CMF C16 H13 F15 O3



CM 2

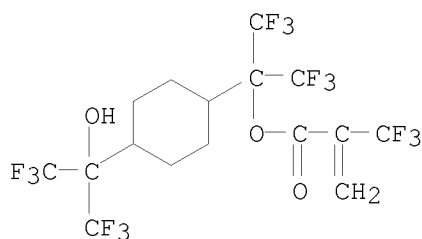
CRN 188739-86-8
CMF C15 H19 F3 O2



RN 610300-97-5 CAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with 5-[2-(ethoxymethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

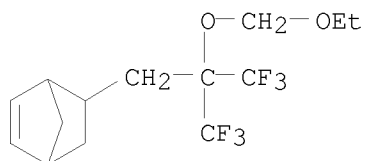
CM 1

CRN 479072-83-8
 CMF C16 H13 F15 O3



CM 2

CRN 328114-61-0
 CMF C14 H18 F6 O2



RN 610300-98-6 CAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8
 CMF C16 H13 F15 O3



Chemical structure of compound 1: A bicyclic system (bicyclo[2.2.2]oct-5-ene) with a CF_3 group and a $\text{C}(\text{O})\text{OBu-t}$ group attached to the same carbon atom.

CM 1

CC(C)(C)OC(=O)OC1(C(F)(F)F)C(C(F)(F)F)C(C(F)(F)F)C(C(F)(F)F)C1OC(=O)C(=O)C(F)(F)F

CM 2

FC(F)(F)C(=O)C(=O)O[C@H]1C[C@H]2C[C@@H]1C[C@H](C2)C

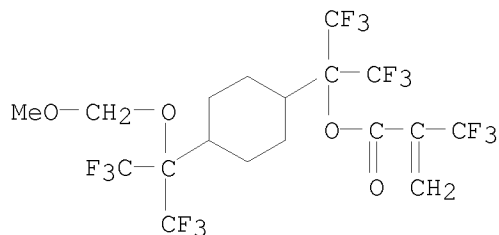
RN	610301-03-6	CAPLUS
CN	Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, methyl	

ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-(methoxymethoxy)-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 610301-02-5

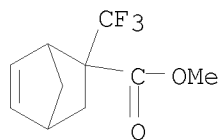
CMF C18 H17 F15 O4



CM 2

CRN 597581-42-5

CMF C10 H11 F3 O2



L5 ANSWER 6 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:834248 CAPLUS

DOCUMENT NUMBER: 139:330330

TITLE: Chemically amplified photoresist compositions with high sensitivity and resolution

INVENTOR(S): Kodama, Kunihiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokyo Koho, 63 pp.

CODEN: JKXXAF

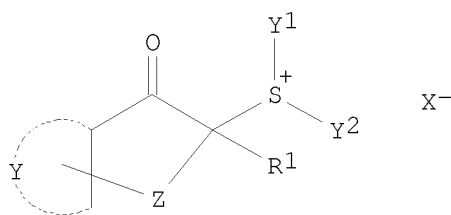
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2003302754	A	20031024	JP 2002-110738	20020412
PRIORITY APPLN. INFO.:			JP 2002-110738	20020412
OTHER SOURCE(S):	MARPAT	139:330330		
GI				



I

AB The resist compns., useful for excimer laser development, contain photoacid generators I (R1 = H, alkyl, aryl, cyano; Y1, Y2 = alkyl, aryl, aralkyl, heteroring; Y = condensed aromatic group, heteroring; Z = single bond, divalent linking group; X- = nonnucleophilic anion).

IT 607710-71-4P 607710-72-5P 610300-97-5P
610300-98-6P 610301-00-3P 610301-01-4P
610301-03-6P 615278-38-1P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(sulfonium-based photoacid generators for excimer laser-sensitive photoresists with high sensitivity and resolution)

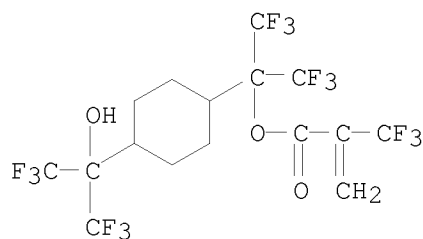
RN 607710-71-4 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl 1,1-dimethylethyl carbonate (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8

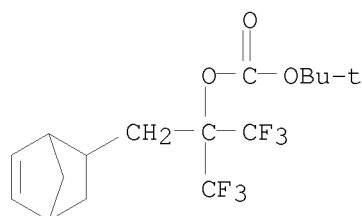
CMF C16 H13 F15 O3



CM 2

CRN 196314-63-3

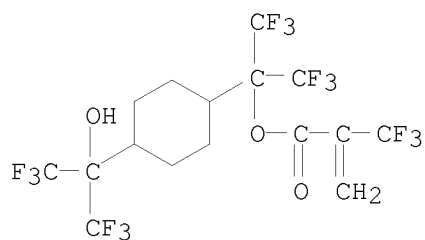
CMF C16 H20 F6 O3



RN 607710-72-5 CAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

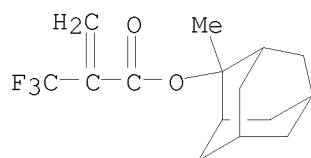
CM 1

CRN 479072-83-8
 CMF C16 H13 F15 O3



CM 2

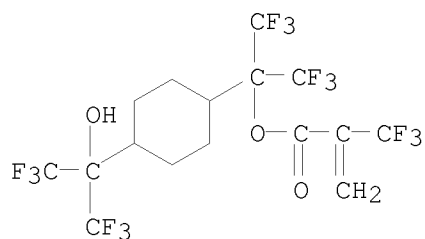
CRN 188739-86-8
 CMF C15 H19 F3 O2



RN 610300-97-5 CAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with 5-[2-(ethoxymethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

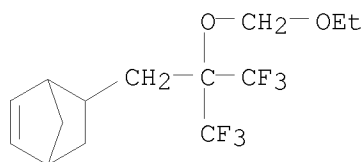
CM 1

CRN 479072-83-8
 CMF C16 H13 F15 O3



CM 2

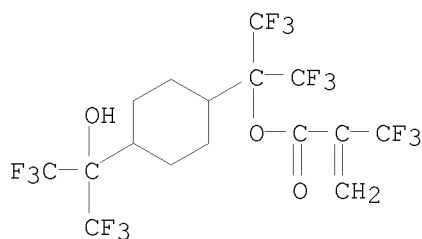
CRN 328114-61-0
CMF C14 H18 F6 O2



RN 610300-98-6 CAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

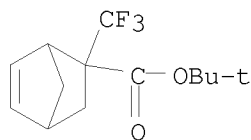
CM 1

CRN 479072-83-8
CMF C16 H13 F15 O3



CM 2

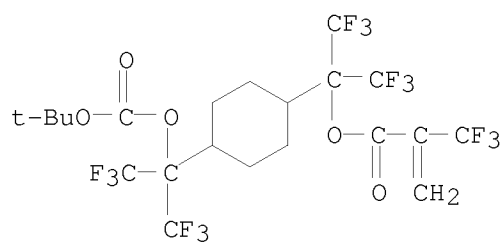
CRN 365568-55-4
CMF C13 H17 F3 O2



RN 610301-00-3 CAPLUS
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1-[4-[1-[(1,1-dimethylethoxy)carbonyl]oxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexyl]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, polymer with tricyclo[3.3.1.1.3,7]dec-1-yl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

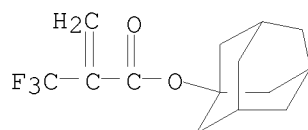
CRN 610300-99-7
CMF C21 H21 F15 O5



CM 2

CRN 188739-82-4

CMF C14 H17 F3 O2



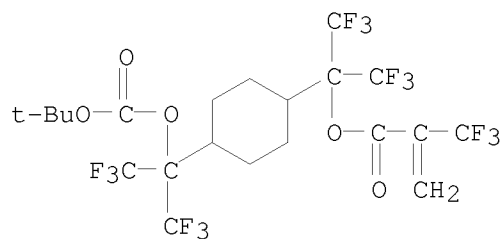
RN 610301-01-4 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1-[4-[1-[(1,1-dimethylethoxy)carbonyl]oxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexyl]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 610300-99-7

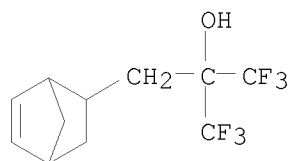
CMF C21 H21 F15 O5



CM 2

CRN 196314-61-1

CMF C11 H12 F6 O

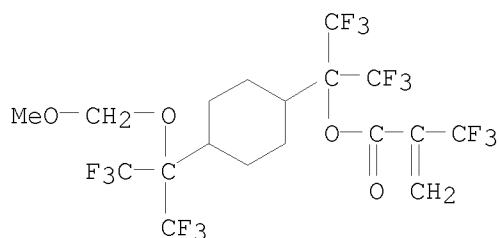


RN 610301-03-6 CAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, methyl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-(methoxymethoxy)-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 610301-02-5

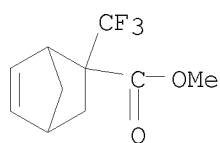
CMF C18 H17 F15 O4



CM 2

CRN 597581-42-5

CMF C10 H11 F3 O2

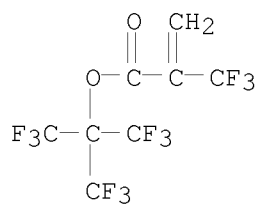


RN 615278-38-1 CAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1,1-bis(trifluoromethyl)ethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 615278-37-0

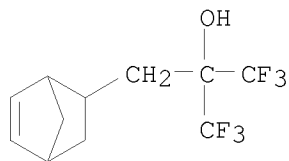
CMF C8 H2 F12 O2



CM 2

CRN 196314-61-1

CMF C11 H12 F6 O



L5 ANSWER 7 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:811839 CAPLUS
 DOCUMENT NUMBER: 139:330321
 TITLE: Positive-working chemically amplified photoresist composition containing specific polymer
 INVENTOR(S): Sasaki, Tomoya; Mizutani, Kazuyoshi; Kanna, Shinichi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 65 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003295442	A	20031015	JP 2002-101462	20020403

PRIORITY APPLN. INFO.: JP 2002-101462 20020403

AB The title composition contains an acid-sensitive polymer, wherein the polymer contains repeating unit [-C(R(I)-1)(R(I)-2)-C(R(I)-3)(R(I)-4)], [-C(R(II)-1)(R(II)-2)-C(R(II)-3)(R(II)-4)], and one of following repeating units: [-C(R(IIIa)-1)(R(IIIa)-2)-C(R(IIIa)-3)(-L-Va)]; [-C(R(IIIb)-1)(-L2-V2a)-C(R(IIIb)-3)(-L1-V1a)]; [-Q(Rb)l(-L3-V3a)] (R(I)-1-4 = H, F, Cl, Br, alkyl, etc.; R(II)-1-3 = H, alkyl; R(II)-4 = alkyl; L1-3 = 2-valent connecting group; Va, V1a, V3a = acid-sensitive group; V2a = H, -R, -OR, etc.; R = alkyl; Q = alicyclic hydrocarbon; Rb = H, alkyl, halo; l = 0-3 integer). The composition generates decreased amount of particles in the solution and provides photoresist of good transparency towards ≤160 nm light, high sensitivity, and good contrast.

IT 607710-71-4P 607710-72-5P 610300-98-6P
 610301-01-4P 612837-03-3P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (resin in pos.-working chemical amplified photoresist composition)

RN 607710-71-4 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl 1,1-dimethylethyl carbonate (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8

CMF C16 H13 F15 O3



RN	607710-72-5	CAPLUS
CN	2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1 ^{3,7}]dec-2-yl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)	

CM 1

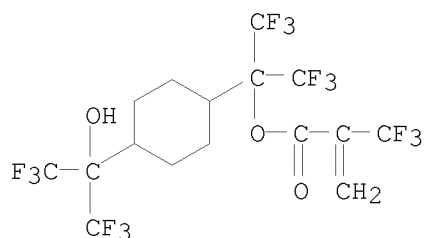
CM 2

CC12CCC3C(C1)C(C(C2)OC(=O)C(=O)C(F)(F)F)C4=CC=CC=C34

RN 610300-98-6 CAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

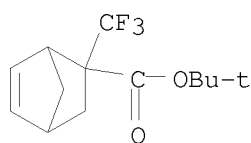
CM 1

CRN 479072-83-8
 CMF C16 H13 F15 O3



CM 2

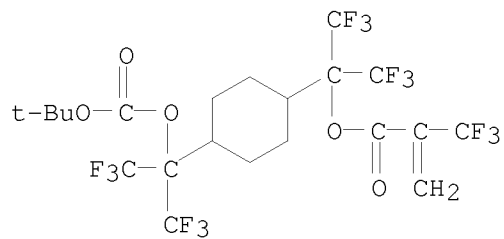
CRN 365568-55-4
 CMF C13 H17 F3 O2



RN 610301-01-4 CAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1-[4-[1-[(1,1-dimethylethoxy)carbonyl]oxy]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]cyclohexyl]-2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

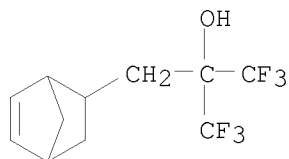
CM 1

CRN 610300-99-7
 CMF C21 H21 F15 O5



CM 2

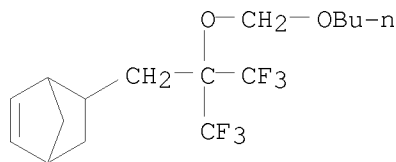
CRN 196314-61-1
CMF C11 H12 F6 O



RN 612837-03-3 CAPLUS
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with 5-[2-(butoxymethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

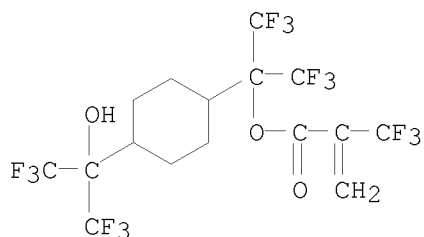
CM 1

CRN 612837-02-2
CMF C16 H22 F6 O2



CM 2

CRN 479072-83-8
CMF C16 H13 F15 O3



L5 ANSWER 8 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:752135 CAPLUS
DOCUMENT NUMBER: 140:10530
TITLE: Fabrication of hologram coins using electron beam lithography
AUTHOR(S): Leech, Patrick W.; Sexton, Brett A.; Marnock, Russell J.; Smith, Fiona
CORPORATE SOURCE: CSIRO Manufacturing and Infrastructure Technology, Clayton, 3169, Australia
SOURCE: Materials Research Society Symposium Proceedings (2003), 777(Nanostructuring Materials with Energetic

Beams), 101-106
CODEN: MRSPDH; ISSN: 0272-9172
Materials Research Society

PUBLISHER:
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Diffractive grating structures formed by electron-beam lithog. have been replicated into the surface of silver commemorative coins. The detailed features of the gratings and the depth of relief were accurately transferred from the resist master plate to the surface of the fine silver coins using a Ni shim as a replication tool. This method has produced an optically variable device (OVD) in the surface of the coins which exhibited a strong intensity of first order diffraction over the area of the image (3 + 1.5 cm). A feature of the grating structures formed in the coins were fine-scale protrusions located along the length of the ridges. The presence of these protrusions has been attributed to an adhesive transfer and back-transfer of Ag during the cycle of impact loading of the Ni shim for sequential coins.

IT 74359-03-8, EBR-9
RL: TEM (Technical or engineered material use); USES (Uses)
(fabrication of hologram silver commemorative coins using electron-beam lithog.)

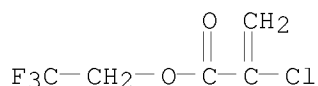
RN 74359-03-8 CAPLUS

CN 2-Propenoic acid, 2-chloro-, 2,2,2-trifluoroethyl ester, homopolymer (CA INDEX NAME)

CM 1

CRN 74359-02-7

CMF C5 H4 Cl F3 O2



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:671498 CAPLUS

DOCUMENT NUMBER: 139:188320

TITLE: Positive photoresists showing superior transparency to 157-nm light and excellent sensitivity

INVENTOR(S): Sasaki, Tomoya; Mizutani, Kazuyoshi; Kanna, Shinichi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 46 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

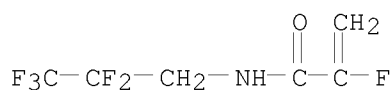
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

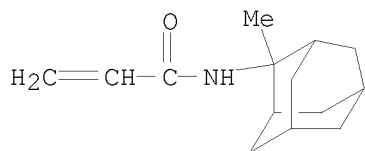
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003241381	A	20030827	JP 2002-46284	20020222
PRIORITY APPLN. INFO.:			JP 2002-46284	20020222

AB The photoresists, useful for F2 excimer laser lithog., comprise (A) resins increasing alkali solubility upon acid action and having repeating unit CR1R2CR3(L1XNHR4) (R1-R3 = H, Cl, CN, Me, F, fluoroalkyl, where ≥ 1 of them is F or fluoroalkyl; L1 = single bond, bivalent bridging group; X = CO, SO2; R4 = monovalent organic group) and (B) radiation-sensitive acid generators.

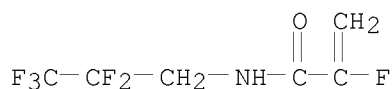
IT 581804-54-8P 581804-55-9P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (binders; chemical amplified pos. photoresists containing fluoro-containing acid-labile binders showing high transparency to 157-nm light)
 RN 581804-54-8 CAPLUS
 CN 2-Propenamide, 2-fluoro-N-(2,2,3,3,3-pentafluoropropyl)-, polymer with N-(2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl)-2-propenamide (9CI) (CA INDEX NAME)
 CM 1
 CRN 581804-53-7
 CMF C6 H5 F6 N O



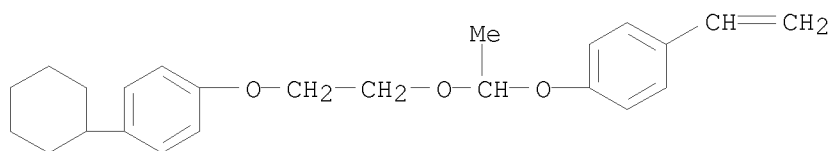
CM 2
 CRN 581804-52-6
 CMF C14 H21 N O



RN 581804-55-9 CAPLUS
 CN 2-Propenamide, 2-fluoro-N-(2,2,3,3,3-pentafluoropropyl)-, polymer with 1-cyclohexyl-4-[2-[1-(4-ethenylphenoxy)ethoxy]ethoxy]benzene (9CI) (CA INDEX NAME)
 CM 1
 CRN 581804-53-7
 CMF C6 H5 F6 N O



CM 2
 CRN 326591-95-1
 CMF C24 H30 O3



L5 ANSWER 10 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:658735 CAPLUS

DOCUMENT NUMBER: 140:50217

TITLE: Strategies for high transparency acrylate resists for 157 nm lithography

AUTHOR(S): Jakubek, Vladimir; Liu, Xiang-Qian; Vohra, Vaishali R.; Douki, Katsuji; Kwark, Young-Je; Ober, Christopher K.; Markley, Thomas J.; Robertson, Eric A., III; Carr, Richard V. C.; Marsella, John A.; Conley, Will; Miller, Daniel; Zimmerman, Paul

CORPORATE SOURCE: Department of Materials Science & Engineering, Cornell University, Ithaca, NY, 14853, USA

SOURCE: Journal of Photopolymer Science and Technology (2003), 16(4), 573-580

CODEN: JSTE EW; ISSN: 0914-9244

PUBLISHER: Technical Association of Photopolymers, Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Several strategies were employed to improve the transparency and etch resistance of the acrylate-based 157 nm photoresists. (1) α -Fluorinated acrylates were synthesized and polymerized using radical initiation. The homopolymer of 2-[4-(2-hydroxy-hexafluoroisopropyl)cyclohexane]hexafluoro isopropyl- α -monofluoroacrylate (FA) showed high transparency at 157 nm ($A = 1.7 \mu\text{m}^{-1}$), and its copolymer with norbornene hexafluoroalc. and α -fluoro-tert-butylacrylate shows good 248 nm lithog. performance. (2) Selected acrylates containing hexafluoroisopropyl groups and hydrogenated single ring and multi-ring systems were prepared to address etch resistance. Homopolymers of acrylic versions of FA with different alicyclic moieties such as 1,3-cyclohexane, hydrogenated di-Ph ether and decaline showed very good transparency at 157 nm ($A = 1.8 \mu\text{m}^{-1}$, $2.4 \mu\text{m}^{-1}$, $2.6 \mu\text{m}^{-1}$, resp.). Tg values for these homopolymers were determined to be in the range of 91-95°C. (3) The POSS group was also used to improve etch resistance. POSS-containing non-fluorinated acrylate copolymers showed absorbances of 3.0-3.3 μm^{-1} at 157 nm. POSS containing α -trifluoromethylacrylate polymers are expected to have lower absorbance. (4) To utilize an alternating copolymn. scheme, new fluorinated monomers containing both electron-rich and electron-deficient double bonds in one mol. were synthesized. The monomers were designed to undergo cyclopolymn. to generate polymers for improved transparency, etch resistance and outgassing properties.

IT 635683-25-9P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(design and preparation of high transparency acrylate photoresists for 157 nm lithog.)

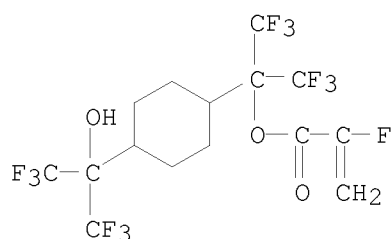
RN 635683-25-9 CAPLUS

CN 2-Propenoic acid, 2-fluoro-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, homopolymer (9CI) (CA INDEX NAME)

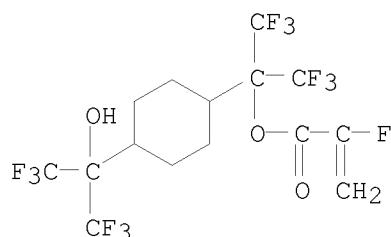
CM 1

CRN 635683-21-5

CMF C15 H13 F13 O3



IT 635683-21-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (design and preparation of high transparency acrylate photoresists for 157 nm lithog.)
 RN 635683-21-5 CAPLUS
 CN 2-Propenoic acid, 2-fluoro-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester (CA INDEX NAME)



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 11 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:658729 CAPLUS
 DOCUMENT NUMBER: 140:33568
 TITLE: Fluoropolymer resists: Progress and properties
 AUTHOR(S): Ito, H.; Truong, H. D.; Okazaki, M.; DiPietro, R. A.
 CORPORATE SOURCE: IBM Almaden Research Center, San Jose, CA, 95120, USA
 SOURCE: Journal of Photopolymer Science and Technology (2003), 16(4), 523-536
 CODEN: JSTEWE; ISSN: 0914-9244
 PUBLISHER: Technical Association of Photopolymers, Japan
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Various new fluoropolymers have been prepared for use in 157 nm lithog. in the last few years. While several different backbone structures are available, what is common to all these 157 nm polymers is the exclusive use of hexafluoroisopropanol (HFA) as an acid group. The major effort has been placed on reduction of the absorption at 157 nm. The authors focused their attention on the hydrophobicity-hydrophilicity balance and understanding of the interaction of the HFA moiety with other functional groups and the dissoln. behavior of the HFA polymers. Initially, the authors developed four platforms; all-acrylic, all-norbornene, aliphatic, and aromatic systems. The all-acrylic system based on 2-trifluoromethylacrylic monomers was meant to be for tool-testing and the all-norbornene system based on norbornene with pendant HFA has been primarily engineered for 193 nm application (COBRA 5000). Since the aromatic system based on a copolymer of tert-Bu 2-trifluoromethylacrylate (TBTFMA) with styrene bearing HFA has a rather high absorption of 3.2/ μ m, the authors major development effort has been directed to the aliphatic system based on a copolymer of TBTFMA and α,α -bis-(trifluoromethyl)-bicyclo[2.2.1]hept-5-ene-

2-ethanol (NBHFA) or vinyl ether. New copolymers have been prepared by radical copolymer. of TBTFMA with vinyl ethers bearing HFA, resulting in lower absorption and lower/controllable glass transition temps. In addition to the new copolymers with polar vinyl ethers, the dissoln. behavior and hydrogen bonding interaction of HFA polymers are described.

IT 634196-79-5 634196-80-8

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(design and lithog. properties of fluoropolymer photoresists for vacuum-UV lithog.)

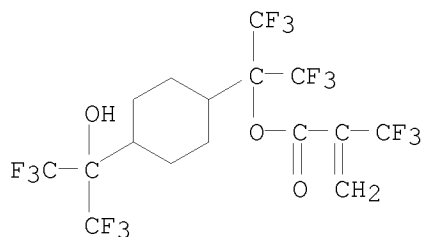
RN 634196-79-5 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8

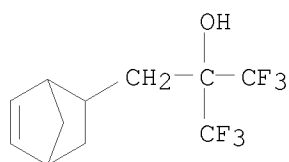
CMF C16 H13 F15 O3



CM 2

CRN 196314-61-1

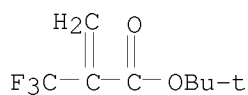
CMF C11 H12 F6 O



CM 3

CRN 105935-24-8

CMF C8 H11 F3 O2



RN 634196-80-8 CAPLUS

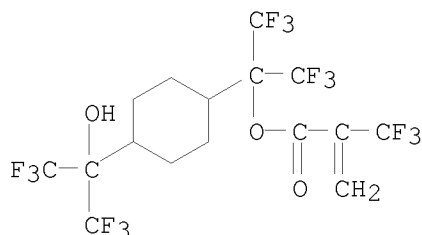
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-

(trifluoromethyl)ethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8

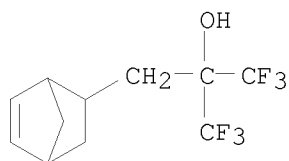
CMF C16 H13 F15 O3



CM 2

CRN 196314-61-1

CMF C11 H12 F6 O

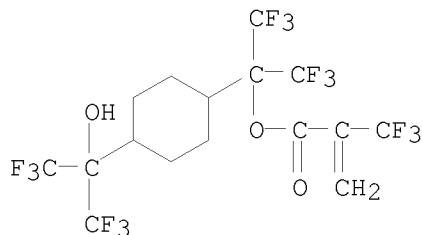


IT 479072-83-8

RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(monomer; design and lithog. properties of fluoropolymer photoresists
for vacuum-UV lithog.)

RN 479072-83-8 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester (CA INDEX NAME)



REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

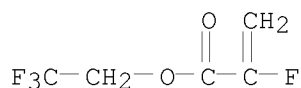
L5 ANSWER 12 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:604938 CAPLUS

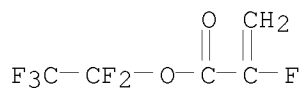
DOCUMENT NUMBER: 140:83978

TITLE: The control of vibrational relaxation in the fluorinated matrix

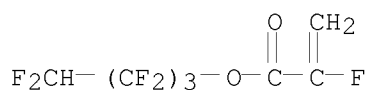
AUTHOR(S): Ando, Yoshito; Tanaka, Yoshito; Araki, Takayuki;
 Hasegawa, Yasuchika; Wada, Yuji; Yanagida, Shozo
 CORPORATE SOURCE: Research and Development Dept. No.1, Chemical Div.,
 Daikin Industries Ltd., Settsu-shi, Osaka, 566-8585,
 Japan
 SOURCE: Kidorui (2003), 42, 140-141
 CODEN: KIDOEP; ISSN: 0910-2205
 PUBLISHER: Nippon Kidorui Gakkai
 DOCUMENT TYPE: Journal
 LANGUAGE: Japanese
 AB The excited state of rare earth metal undergoes radiationless energy
 transfer to organic media. The effect of low vibrational mode of C-F bond on
 the rare earth luminescence was observed by comparing PMMA to
 poly(hexafluoroisopropyl)methacrylate. The luminescence intensity
 lifetime and quantum yield of tris(hexafluoroacetylacetonato)europium(III)
 in several fluorinated matrixes were studied. The radiationless energy
 transfer of the Eu complex was controlled.
 IT 95243-61-1 640736-70-5 640736-72-7
 640736-74-9
 RL: PEP (Physical, engineering or chemical process); PYP (Physical
 process); PROC (Process)
 (control of vibrational relaxation in luminescence of europium
 hexafluoroacetylacetonato complex in matrix of)
 RN 95243-61-1 CAPLUS
 CN 2-Propenoic acid, 2-fluoro-, 2,2,2-trifluoroethyl ester, homopolymer (9CI)
 (CA INDEX NAME)
 CM 1
 CRN 74359-10-7
 CMF C5 H4 F4 O2



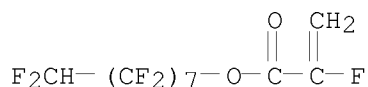
RN 640736-70-5 CAPLUS
 CN 2-Propenoic acid, 2-fluoro-, pentafluoroethyl ester, homopolymer (9CI)
 (CA INDEX NAME)
 CM 1
 CRN 640736-69-2
 CMF C5 H2 F6 O2



RN 640736-72-7 CAPLUS
 CN 2-Propenoic acid, 2-fluoro-, 1,1,2,2,3,3,4,4-octafluorobutyl ester,
 homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 640736-71-6
 CMF C7 H3 F9 O2



RN 640736-74-9 CAPLUS
 CN 2-Propenoic acid, 2-fluoro-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-hexadecafluorooctyl ester, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 640736-73-8
 CMF C11 H3 F17 O2



L5 ANSWER 13 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:570098 CAPLUS
 DOCUMENT NUMBER: 140:365502
 TITLE: Design and study of resist materials for 157-nm lithography
 AUTHOR(S): Yamada, Shintaro; Cho, Sungseo; Zampini, Anthony
 CORPORATE SOURCE: Shipley Co. LLC, Marlborough, MA, 01752, USA
 SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2003), 5039(Pt. 1, Advances in Resist Technology and Processing XX), 569-579
 CODEN: PSISDG; ISSN: 0277-786X
 PUBLISHER: SPIE-The International Society for Optical Engineering
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The authors investigated the structure-property relationships of several polymer platforms containing hexafluoroisopropanol (HFIP) and tertiary alkyl ester functionalities in order to identify and develop fluorine-containing polymers suitable for 157 nm lithog. The authors observed that the aqueous base solubility of homopolymers containing HFIP was highly dependent on the monomer structure, number of HFIP group per monomer unit, substituent on the alc. and the polymer architecture. Copolymers of tert-Bu acrylate (TBA), tert-Bu 2-fluoroacrylate (TBFA) and tert-Bu 2-trifluoromethylacrylate (TBTFMA) with styrenehexafluoroisopropanol (STYHFIP) or norbornene hexafluoroisopropanol (NBHFIP) were also investigated to determine the effect of substitution at the acrylate α -position. Under the same ration of STYHFIP, the transparency of the co-polymers improved in the order of $\text{CF}_3 > \text{F} > \text{H}$ while the dry etch stability decreased in the order of $\text{CF}_3 > \text{F} > \text{H}$. When exposed to 157 nm radiation, photoresists of P(STYHFIP-TBA), P(STYHFIP-TBFA) and P(STYHFIP-TBTFMA) showed an increase in E0 ni the order of $\text{H} < \text{F} < \text{CF}_3$, but the difference was marginal. The PEB sensitivity was nearly identical for all three co-polymers suggesting that the nature of the substituent at the α -position of the acrylate monomer did not have a significant impact on the deprotection chemical. The photospeed of P(NBHFIP-TBTFMA) was much slower than that of P(STYHFIP-TBTFMA) due to a slower dissoln. rate of NBHFIP than that of STYHFIP and to the influence of the polymer matrix on the deprotection reaction.

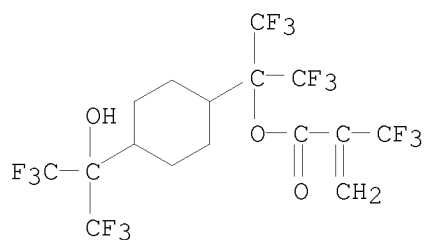
IT 634196-80-8
 RL: PRP (Properties)
 (comparison of dissoln. rates of polymers containing hexafluoroisopropanol pendant groups in relation to design of 157-nm lithog. photoresists)
 RN 634196-80-8 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8

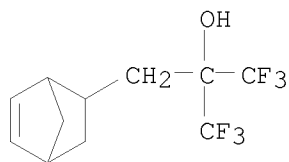
CMF C16 H13 F15 O3



CM 2

CRN 196314-61-1

CMF C11 H12 F6 O



IT 634196-79-5

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(lithog. evaluation of photoresists for 157-nm lithog. based on terpolymers containing hexafluoroisopropanol- and tertiary alkyl ester groups)

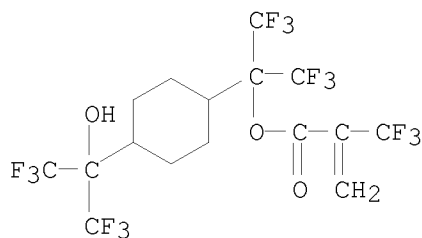
RN 634196-79-5 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

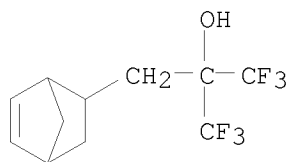
CRN 479072-83-8

CMF C16 H13 F15 O3



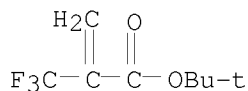
CM 2

CRN 196314-61-1
CMF C11 H12 F6 O



CM 3

CRN 105935-24-8
CMF C8 H11 F3 O2



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 14 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:570095 CAPLUS

DOCUMENT NUMBER: 140:365500

TITLE: Fluoropolymer resists for 157 nm lithography

AUTHOR(S): Vohra, Vaishali R.; Liu, Xiang-Qian; Douki, Katsuji; Ober, Christopher K.; Conley, Will; Zimmerman, Paul; Miller, Daniel

CORPORATE SOURCE: Department of Materials Science & Engineering, Cornell Univ., Ithaca, NY, 14853, USA

SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2003), 5039(Pt. 1, Advances in Resist Technology and Processing XX), 539-547
CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Fluoropolymers have been shown to be one of the best materials for high transparency of 157 nm wavelength radiation. Both resists and pellicles are being designed from such materials. One of the authors approaches to improved transparency for 157 nm resists is based upon fluorinated variations of polymethacrylate and polyhydroxystyrene derivs. Lithog. studies were carried out on exptl. resist platforms using 157 and 248 nm steppers, and it was shown that, after selective modification, it is

possible to use conventional resist backbones, such as acrylic or styrenic, in the design of single-layer resists for 157 nm lithog. It has been demonstrated in the authors studies that 157 nm absorbance of these materials can be as low as 1.5-2.0 μm^{-1} . Another approach to 157 nm resist design is based upon fluorinated backbone variations. Research will be described focusing on several new monomers having fluorine functions such as -F and -CF₃ groups near a polymerizable double bond to improve transparency at 157 nm and to raise the resist glass transition temperature compared to their hydrocarbon analogs. Due to the lower electron

d.

of the double bond, these monomers can be copolymd. with electron-rich vinyl monomers. As an extension to this strategy, the authors are synthesizing novel fluoropolymers having partially fluorinated monocyclic structures with radical cyclo-polymerization These polymers have the C-F bond

on

the polymer main chain and also possess acid labile groups as part of a ring structure to eliminate degassing. In order to further enhance the transparency of these systolic polymers at 157 nm, we have eliminated the carbonyl group. The cyclic nature of the polymer will result in a high glass transition temperature

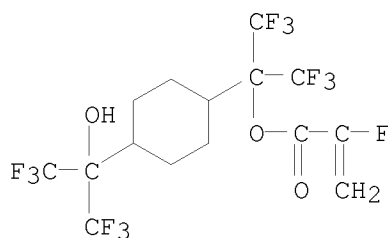
IT 635683-21-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(monomer; design of fluoropolymers for single-layer chemical amplification photoresists for 157 nm lithog.)

RN 635683-21-5 CAPLUS

CN 2-Propenoic acid, 2-fluoro-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester (CA INDEX NAME)



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 15 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:570093 CAPLUS

DOCUMENT NUMBER: 140:365498

TITLE: Novel main-chain-fluorinated polymers for 157-nm photoresists

AUTHOR(S): Toriumi, Minoru; Koh, Meiten; Ishikawa, Takuji; Kodani, T.; Araki, Takayuki; Aoyama, Hirokazu; Yamashita, Tsuneo; Yamazaki, Tamio; Furukawa, Takamitsu; Itani, Toshiro

CORPORATE SOURCE: Daikin Industries Co., Ltd., Osaka, 566-8585, Japan

SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2003), 5039(Pt. 1, Advances in Resist Technology and Processing XX), 53-60
CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

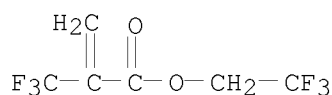
AB Main-chain-fluorinated base-resins, including tetrafluoroethylene and norbornene derivs., were synthesized and their fundamental properties,

such as transparency at 157 nm and solubility in a standard alkaline developer, were characterized. A high transparency, i.e., absorbance of less than 0.5 μm^{-1} , was achieved by optimizing the polymerization conditions with a variety of counter monomers. It was found that the polymerization conditions could also control the dissoln. rates of the fluoropolymers and increased the dissoln. rate of unprotected fluoropolymers by about three orders of magnitude, which was sufficient for the alkaline developability. Pos.-working resists based on fluoroamines were developed and showed good transparency of less than 1 μm^{-1} at 157 nm, and good solubility in a standard alkaline solution of 0.26-N tetramethylammonium (without any swelling behavior). And an acceptable etching rate as resistant as ArF resists was obtained and 65-nm dense lines could be delineated by the exposure at 157-nm wavelength.

IT 91520-39-7 105935-33-9
 RL: NUU (Other use, unclassified); USES (Uses)
 (monomer; polymers based on fluoroolefins and norbornene derivs. and their properties and lithog. performance in chemical amplified photoresist formulations for 157-nm exposures)

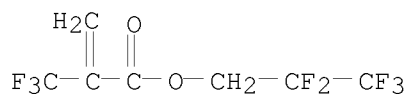
RN 91520-39-7 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoroethyl ester (CA INDEX NAME)



RN 105935-33-9 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,3,3,3-pentafluoropropyl ester (CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 16 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:570081 CAPLUS

DOCUMENT NUMBER: 140:339901

TITLE: Hydrogen bonding and aqueous base dissolution behavior of hexafluoroisopropanol-bearing polymers

AUTHOR(S): Ito, Hiroshi; Hinsberg, William D.; Rhodes, Larry F.; Chang, Chun

CORPORATE SOURCE: IBM Almaden Research Ctr., San Jose, CA, 95120-6099, USA

SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2003), 5039(Pt. 1, Advances in Resist Technology and Processing XX), 70-79
 CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The aqueous base dissoln. behavior and H bonding interaction of polymers bearing hexafluoroisopropanol (HFA) as an acid group were studied. While pKa of HFA is similar to that of phenol, the dissoln. rate of HFA polymers in aqueous base varies from 1 structure to another. Poly(norbornene

hexafluoroisopropanol) (PNBHFA) dissolves in 0.26N Me4NOH (TMAH) aqueous solution

at a rate 1500-8000 A/s, which is not correlated to the number-average or weight-average

mol. weight Also, PNGHFA exhibits a complex multi-stage dissoln. kinetics in 0.21N TMAH, depending on the mol. weight and mol. weight distribution. H bonding of HFA polymers was studied using FTIR. Polynorbornene and polystyrene bearing HFA (PNBHFA and PSTHFA) are much less H-bonded than poly(4-hydroxystyrene) (PHOST). HFA-ester copolymers tend to have more free OH groups than a HOST/CMe3 acrylate copolymer. The carbonyl bond in 2-trifluoromethylacrylic units is less polarized and therefore less prone to H bonding with OH than C=O in (meth)acrylate units. The interaction of acid generators with the HFA group can be studied by ¹⁹F NMR. Both ionic iodonium and nonionic imidesulfonate acid generators interact strongly with HFA and inhibit the dissoln. of HFA polymers in aqueous base while ionic acid generators are better dissoln. inhibitors of phenolic resins.

IT 634196-80-8

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(hydrogen bonding and complex dissoln. behavior of hexafluoroisopropanol-bearing polymers)

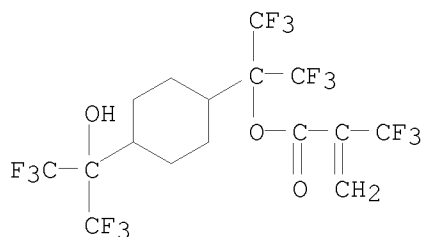
RN 634196-80-8 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,2-trifluoro-1-[4-[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]cyclohexyl]-1-(trifluoromethyl)ethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 479072-83-8

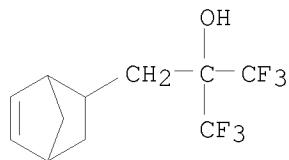
CMF C16 H13 F15 O3



CM 2

CRN 196314-61-1

CMF C11 H12 F6 O

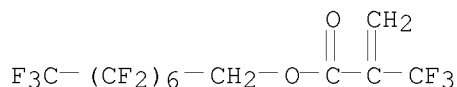


REFERENCE COUNT:

29

THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 2003:570007 CAPLUS
 DOCUMENT NUMBER: 140:261269
 TITLE: Progress towards the development of a 157-nm photoresist for carbon dioxide-based lithography
 AUTHOR(S): Zannoni, Luke A.; Simhan, Jay; DeSimone, Joseph M.
 CORPORATE SOURCE: Department of Chemistry, Univ. of North Carolina/Chapel Hill, Chapel Hill, NC, 27599, USA
 SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2003), 5039(Pt. 2, Advances in Resist Technology and Processing XX), 1327-1332
 CODEN: PSISDG; ISSN: 0277-786X
 PUBLISHER: SPIE-The International Society for Optical Engineering
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Photolithog. requires organic solvents and aqueous base in the spin-coating, development, and stripping of photoresists. Carbon dioxide, an inexpensive, plentiful, and environmentally sound solvent with tunable solvency, has been proposed as an environmentally friendly alternative to traditional solvents in the electronics industry. Replacing current solvents with CO2 stems from the inherently low viscosity and surface tension of CO2. These properties allow for development of sub 0.1 μm images without image collapse, a potential problem in aqueous development. Carbon dioxide has been utilized for the synthesis of fluoropolymers. Therefore, given the high solubility of amorphous fluoropolymers in CO2, and the necessity of fluoropolymers for the next generation of photolithog. (157 nm), CO2 may be an environmentally sound solvent for the synthesis, application, development, and stripping of photoresists. To accomplish this goal, several fluorinated monomers (tetrafluoroethylene, chlorotrifluoroethylene, hexafluoropropylene and vinylidene difluoride) have been copolymd. in dense carbon dioxide with norbornene and norbornene analogs. The resulting polymers have been characterized to determine mol. weight,
 comonomer incorporation, Tg, CO2 solubility, and absorbance at 157 nm and 193 nm. Attention: many of the materials described are extremely dangerous, great care should be taken before carrying out any similar expts.
 IT 19312-28-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (monomer; properties and synthesis of fluoropolymer photoresists in supercrit. CO2 solvent for 157-nm lithog. using CO2 as developer and stripper)
 RN 19312-28-8 CAPLUS
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl ester (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 18 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:432945 CAPLUS
 DOCUMENT NUMBER: 139:15038
 TITLE: Manufacture of antireflection films with good soiling and abrasion resistance for displays
 INVENTOR(S): Ito, Hiroto
 PATENT ASSIGNEE(S): Konica Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent

LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003161807	A	20030606	JP 2001-361364	20011127

PRIORITY APPLN. INFO.: JP 2001-361364 20011127

AB The manufacturing method for the antireflection film having a F-containing organic layer on a substrate directly or via other layers contains (A) generating plasma of F-containing reactive gas of CH₂:CFCO₂CHXCH₂OCOCF:CH₂ (X = C₂-14-alkyl containing ≥3 F, C₄-14-cycloalkyl containing ≥4 F) or CH₂:CY₁CO₂Z₁OCOCY₂:CH₂ (Y₁, Y₂ = H, Me; Z₁ = C₁-14-alkylene containing ≥2 F, C₃-14-cycloalkylene containing ≥4 F, CZ₂HCH₂; Z₂ = C₁-14-alkyl containing ≥3 F, C₃-14-cycloalkyl containing ≥4 F) between electrodes under the atmospheric pressure or a pressure near it and (B) exposing the substrate to the plasma for depositing the F-containing layer.

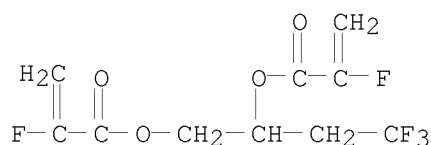
IT 535926-94-4P 535926-96-6P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (top layer; antireflection films having plasma vapor-deposited fluoropolymer layers with good soiling and abrasion resistance for displays)

RN 535926-94-4 CAPLUS

CN 2-Propenoic acid, 2-fluoro-, 4,4,4-trifluoro-2-[(2-fluoro-1-oxo-2-propenyl)oxy]butyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 535926-93-3
 CMF C10 H9 F5 O4

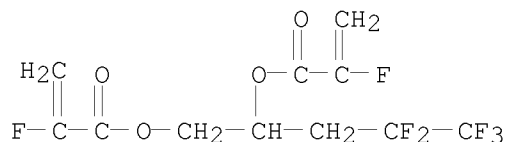


RN 535926-96-6 CAPLUS

CN 2-Propenoic acid, 2-fluoro-, 1-(2,2,3,3,3-pentafluoropropyl)-1,2-ethanediyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 535926-95-5
 CMF C11 H9 F7 O4



L5 ANSWER 19 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:372162 CAPLUS
 DOCUMENT NUMBER: 140:112354
 TITLE: Theoretical analysis on the refractive-index

distribution and bandwidth of gradient-index polymer optical fibers from a centrifugal field

AUTHOR(S): Wei, Ming-Hsin; Chen, Wen-Chang

CORPORATE SOURCE: Department of Chemical Engineering, National Taiwan University, Taipei, 10617, Taiwan

SOURCE: Applied Optics (2003), 42(12), 2174-2180
CODEN: APOPAI; ISSN: 0003-6935

PUBLISHER: Optical Society of America

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Theor. anal. was applied to analyze the refractive-index distribution (RID) and bandwidth (BW) of gradient-index polymer optical fibers (GI POFs) prepared by a centrifugal field process. The RID of the prepared GI POF could be represented by the equation of $n(r) = n_1[1 - 2\delta(r/\alpha)g]^{1/2}$. The studied material systems were poly(hexafluoroisopropyl 2-fluoroacrylate) (PHFIP 2-FA)/dibutyl phthalate (DBP) and poly(Me methacrylate) (PMMA)/benzyl benzoate (BEN). The RID and the BW were significantly affected by an essential parameter k , which was related to the material properties (d. difference and mol. weight) and processing properties (rotating speed, temperature, and radius). As k increased, the characteristic constant of RID, g , decreased to a min. and then increased sharply, owing to the separation of the polymer and the dopant. On the other hand, the relative refractive-index difference of RID, δ , increased to a steady value after k increased to a certain value. The variation of RID with k resulted in a local min. of intermodal dispersion, and thus a maximum bandwidth was obtained. The maximum BW of the PHFIP 2-FA/DBP and PMMA/BEN systems at 1550 nm (100-m fiber length and 2-nm spectral width) for the case of k not equal to 0 were 6.7 and 3.2 Gb/s, resp. The wavelength of light source affects the BW significantly only at k around zero because of the importance of the intramodal dispersion in this case.

IT 74359-07-2
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(di-Bu phthalate-containing; refractive index distribution and bandwidth of gradient-index polymer optical fibers prepared in a centrifugal field)

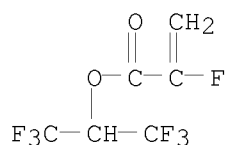
RN 74359-07-2 CAPLUS

CN 2-Propenoic acid, 2-fluoro-, 2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester, homopolymer (CA INDEX NAME)

CM 1

CRN 74359-06-1

CMF C6 H3 F7 O2



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 20 OF 424 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:364236 CAPLUS

DOCUMENT NUMBER: 140:16520

TITLE: Enantioselective Diels-Alder reactions of α -fluorinated α,β -unsaturated carbonyl compounds. Part 5. Chemical consequences of fluorine substitution

AUTHOR(S): Essers, Michael; Ernet, Thomas; Haufe, Gunter
 CORPORATE SOURCE: Organisch-Chemisches Institut, Westfalische
 Wilhelms-Universitat Munster, Munster, D-48149,
 Germany
 SOURCE: Journal of Fluorine Chemistry (2003), 121(2), 163-170
 CODEN: JFLCAR; ISSN: 0022-1139
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 140:16520

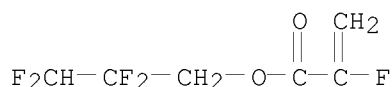
AB α -Fluoro α,β -unsatd. carbonyl compds., compared with the
 corresponding non-fluorinated parent compds., are less reactive in
 Diels-Alder reactions with normal 1,3-dienes. The cycloadducts of such
 dienophiles with 2,3-dimethylbutadiene or o-quinodimethane exhibit low
 stability whereas the corresponding cycloadducts formed with
 cyclopentadiene are stable compds. While the cycloaddns. of 1-octen-3-one
 or benzyl acrylate with cyclopentadiene are endo-selective, reactions with
 2-fluoro-1-octen-3-one or benzyl 2-fluoro acrylate are exo-selective.
 Applying Lewis acids as mediators, the reactions with non-fluorinated
 dienophiles become even more endo-selective, while the corresponding
 reactions with the fluorinated analogs become more exo-selective. Using
 enantiopure Lewis acidic metal complexes such as titanium TADDOLates, low
 enantioselectivity is observed in reactions of cyclopentadiene with
 1-octen-3-one or benzyl acrylate. Catalysts included dichloro[(4R,5R)-2,2-
 dimethyl- $\alpha,\alpha,\alpha',\alpha'$ -tetraphenyl-1,3-dioxolane-4,5-
 dimethanolato(2-)- κ O4, κ O5]titanium, dichloro[(4R,5R)-2-methyl-
 $\alpha,\alpha,\alpha',\alpha'$,2-pentaphenyl-1,3-dioxolane-4,5-
 dimethanolato(2-)- κ O4, κ O5]titanium, dichloro[(4R,5R)-2-(1,1-
 dimethylethyl)- $\alpha,\alpha,\alpha',\alpha'$ -tetraphenyl-1,3-dioxolane-
 4,5-dimethanolato(2-)- κ O4, κ O5]titanium. Moderate
 enantioselectivity [maximum 43% enantiomeric excess (ee)] is found in the
 corresponding cycloaddns. of cyclopentadiene with 2-fluoro-1-octen-3-one,
 whereas benzyl 2-fluoro acrylate shows practically no enantioselectivity.
 The more efficient chiral induction in reactions with the fluorinated
 dienophile 2-fluoro-1-octen-3-one might be caused by a chelate-like
 complexation of the carbonyl compound involving the fluorine substituent.

IT 96250-37-2, 2-Fluoro-2-propenoic acid 2,2,3,3-tetrafluoropropyl
 ester

RL: RCT (Reactant); RACT (Reactant or reagent)
 (enantioselective Diels-Alder reaction of α -fluorinated
 α,β -unsatd. carbonyl compds.)

RN 96250-37-2 CAPLUS

CN 2-Propenoic acid, 2-fluoro-, 2,2,3,3-tetrafluoropropyl ester (CA INDEX
 NAME)



REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT